



Des Gillen
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BP-Husky Refining LLC
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City of Toledo
Division of Environmental Services
348 S. Erie Street
Toledo, OH 43604
Attn.: Peter Park

RE: CMS Summary & Data Assessment Report – 2nd Quarter 2022

Dear Sir or Madam:

Attached is the revised CMS Summary Report and Data Assessment Report for BP-Husky Refining LLC for the period of April 1, 2022, through June 30, 2022.

CMS Summary Report (Attachment A)

A complete list of emissions units and pollutants monitored are in Table 1; Summary Reports are included in Attachment A. Excess Emissions and Monitoring Systems Performance Report is not required under 40 CFR 60.7(d) if the total duration of excess emissions is less than 1% and the CMS downtime is less than 5% of the total operating time for the quarter. Unless where noted in Table 1, these criteria were met for the units listed.

Table 1. Emission Units and Pollutants Monitored

Location/Emission Unit	Parameter	Quarter 2 2022 Downtime (% unit operating time)	Notes
TIU Fuel Gas Mix Drum			
- B015 - Crude 1 Furnace	H ₂ S in Fuel Gas	1.8	
- B017 - Coker 2 Furnace		3.5	
- B019 - Crude Vac 2 Furnace		0.6	
- B022 - Naphtha Treater Furnace		2.7	
- B029 - DHT A-Train Furnace		2.7	
- B030 - BGOT Furnace		2.6	
- B031 - Vac 1 Furnace		2.8	
- B032 - Coker 3 Furnace		2.9	
- B033 - East B-GOT Furnace		2.6	
- B034 – East Alstom Boiler		0.7	
- B035 – West Alstom Boiler		2.0	
- P007 - FCC/CO Boiler		2.5	

Location/Emission Unit	Parameter	Quarter 2 2022 Downtime (% unit operating time)	Notes
TIU Fuel Gas Mix Drum			
- B015 - Crude 1 Furnace	Total Sulfur in Fuel Gas	1.8	
- B019 - Crude Vac 2 Furnace		0.6	
- B022 - Naphtha Treater Furnace		2.7	
- B029 - DHT A-Train Furnace		2.7	
- B030 - BGOT Furnace		2.6	
- B031 - Vac 1 Furnace		2.8	
- B032 - Coker 3 Furnace		2.9	
- B033 - East B-GOT Furnace		2.6	
- B034/B035 – East & West Alstom Boilers		0.5	
East Side Fuel Gas Mix Drum			
- B008 - Iso 2 Feed Heater	H ₂ S in Fuel Gas	1.4	
- B009 - Iso 2 Stabilizer Reboiler		1.4	
- B010 - Iso 2 Splitter Reboiler		1.4	
B036 - Reformer 3 Furnace	H ₂ S	0.0	
P003 - East Flare (see note A)	H ₂ S	0.8	
P003 - East Flare	Total Sulfur	0.0	
P004 – West Flare Vent Gas (see note A)	H ₂ S	0.0	
P004 – West Flare “C-Valve” Vent Gas	H ₂ S	2.0	
P004 – West Flare Vent Gas	Total Sulfur	23.1	DT >5%
P004 – West Flare “C-Valve” Vent Gas	Total Sulfur	2.0	
B036 – Reformer 3 Furnace	NO _x	0.0	
P007 – FCCU/CO Boiler Bypass (see note B)	CO	0.0	
P007 – FCCU/CO Boiler Bypass (see note B)	NO _x	0.0	
P007 – FCCU/CO Boiler Bypass (see note B)	SO ₂	0.0	
P007 – CO Boiler Exhaust	CO	0.0	
P007 – CO Boiler Exhaust	NO _x	0.0	
P007 – CO Boiler Exhaust	SO ₂	0.0	
P009 - Sulfur Recovery Unit with #1 (see note D)	SO ₂	0.0	EE > 1%
P037 - Sulfur Recovery Units #2 & #3 (see note D)	SO ₂	0.0	EE > 1%
B034 – East Alstom Boiler (see note C)	NO _x	0.1	
B035 – West Alstom Boiler (see note C)	NO _x	0.2	

Note A: P003/P004 East & West Flare

The attached H₂S tables identify all emissions in excess of the Subpart Ja H₂S limit of 162 ppm_v on a 3-hour rolling average. If an event did not occur for 3 consecutive hours, then it does not meet the 3-hour averaging requirement and therefore is not considered excess emissions. If a 3-hour event exceeds the 100,000 ppm_v span limit of the H₂S CMS, then the Total Sulfur analyzer data was used for the H₂S value.

Note B: P007 – FCCU/CO Boiler Bypass

The purpose of these CEMS are to continuously monitor the listed (CO, NO_x, & SO₂) emissions from the FCCU Regenerator exhaust in the event of a CO Boiler bypass while there is feed to the FCCU. Otherwise, compliance with the listed limits for the FCCU is determined from continuous emissions monitoring of the CO Boiler Exhaust stack. Although this source is not subject to 40 CFR Part 60, Section C.12.(d)(7) of P0104782 (as set forth by Permits-to-Install 04-01290 and P0105902) requires monitoring per 40 CFR Part 60.11. As

noted in Section C.12.(e)(4) of P0104782, the refinery has opted to follow the reporting requirements under 40 CFR 60.7. 40 CFR 60.7(c) requires the submission of an Excess Emissions and Monitoring Systems Performance Report and Summary Report Form.

Note C: B034/B035 East & West Alstom Boiler

The attached data tables include supplemental reporting for NOx CEMS records required by 40CFR49b(i).

Note D: P009 & P037 Sulfur Recovery Units

This is not a deviation of 40 CFR 60 pursuant to 40 CFR 60.8(c), which states; nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard

Details of all downtime or excess emission incidents are provided in the summary tables in Attachment A.

Toledo Integrated Unit (TIU) Turnaround (TAR):

Beginning on April 18th, BPH began an extended maintenance TAR, which is a planned event every 5-6 years that consists of bringing down a large portion of the refinery. Due to the magnitude of the TAR, these units have remained offline for the rest of the quarter.

As part of the shutdown there were excess emissions from the Sulfur Recovery Units (SRUs). BPH is reporting these Excess Emission hours as a Title V Deviation; however, this is a Title V Deviation only. This is not a Deviation of 40 CFR 60 Subpart Ja, pursuant to 40 CFR 60.8(c), which states that emissions during startup, shutdown, and malfunction shall not be considered a violation of the applicable emissions limit unless otherwise specified in the applicable standard.

During the second quarter of 2022, the West Flare Total Sulfur CEMs Downtime >5%. The West Flare Total Sulfur analyzer malfunctioned after it became saturated with moisture from steam condensing and cleaning products produced used during the shutdown process. Several attempts to repair the analyzer were executed, including a complete overhaul of the analyzer and sample system, however moisture continued to impact the analyzer until the Flare was shut down on 4/28 and remained offline for the remainder of the quarter. Due to the extremely short operating period during this quarter, the downtime >5% the operating time of the West Flare. The sample probe was inspected during TAR and its orientation was adjusted to more effectively shed the water droplets away from the analyzer.

Data Assessment Report (Attachment B)

In accordance with the terms and conditions of their permits, Attachment B includes the Continuous Emission Monitor (CEM) Data Assessment Report (DAR) for this quarter. Table 2 below is a summary of Cylinder Gas Audits conducted this quarter. Where noted in Table 2, Relative Accuracy Test Audits (RATAs) were conducted this quarter; these reports were submitted previously via Air Services.

Table 2. Cylinder Gas Audit Summary

Location/Emission Unit	Parameter	Notes
East Side Fuel Gas Mix Drum (B008, B009, B010)	H ₂ S	
TIU Fuel Gas Mix Drum (B015, B017, B019, B022, B029, B030, B031, B032, B033, B034, B035, P007)	H ₂ S	
B036 - Reformer 3 Heater H ₂ S CMS	H ₂ S	
P003 - East Flare	H ₂ S	
P004 - West Flare	H ₂ S	
P003 - East Flare (low & high ranges)	Total Sulfur	
P004 - West Flare (low & high ranges)	Total Sulfur	
TIU Fuel Gas Mix Drum (B015, B017, B019, B022, B029, B030, B031, B032, B033, B034, B035, P007)	Total Sulfur	
B036 - Reformer 3 NO _x /O ₂ CEMS	NO _x , O ₂	RATA – No CGA
B034 - East Alstom Boiler	NO _x , O ₂	
B035 - West Alstom Boiler	NO _x , O ₂	
P007 - FCCU/CO Boiler	SO ₂ , NO _x , CO, O ₂	RATA – No CGA
P007 - FCC Regen Line	SO ₂ , NO _x , CO, CO ₂ , O ₂	RATA – No CGA
P009 - SRU #1	SO ₂ , O ₂	RATA – No CGA
P037 - SRU #2 & #3 (TRP SRU)	SO ₂ , O ₂	RATA – No CGA

The DAR also includes out-of-control (OOC) times for the FCCU/CO Boiler CO CEMS, FCC Regen Line CO, O₂, & CO₂ CEMS, the SRU#1 SO₂ & O₂ CEMS, and the TRP SRU SO₂ & O₂ CEMS based on the OOC requirements defined by the MACT general requirements, 40 CFR Part 63.8(c)(7).

CEMS calendar tons reporting

In accordance with the Title V permit, Table 3 includes calendar tons per quarter for certain pollutants for Emission units B034, B035, B036, P004, P003, and P007.

Table 3. CEMS Reporting requirement with calendar tons

Page	Citation	EU	Description	Language	Tons
63	B.5.b)(2)b.v	B036	Reformer Heater	Units subject to NSPS Ja NO _x monitoring - quarterly reports require "the total NO _x emissions for the calendar quarter (tons)" to be included with the quarterly EER for NO _x CEMS	4.93
181	c.12.e)(2)b.v	P007	FCCU	Quarterly EER required for SO ₂ CEM requires "the total SO ₂ emissions for the calendar quarter (tons)" to be included	20.53
183	c.12.e)(4)b.v	P007	FCCU	Quarterly EER required for NO _x CEM requires "the total NO _x emissions for the calendar quarter (tons)" to be included	15.01
290	c.20.e)(2)b.v	P037	SRU 2/3	Quarterly EER required for SO ₂ CEM requires "the total SO ₂ emissions for the calendar quarter (tons)" to be included	2.73
428	c.36.e)(4)b.v	B034/B035	Alstom Boilers	Quarterly EER required for NO _x CEM requires "the total NO _x emissions for the calendar quarter (tons)" to be included	4.87
485	c.40.e)(5)b.v	P003/P004	East/West Flare	Quarterly EER required for H ₂ S CEM requires "the total hydrogen sulfide emissions for the calendar quarter (tons)" to be included	0.08
487	c.40.e)(6)b.v	P003/P004	East/West Flare	Quarterly EER required for Total Sulfur CEM requires "the total sulfur emissions for the calendar quarter (tons)" to be included	7.12

If you have any questions concerning this report, please contact Ashley Zapp (Ashley.Zapp@bp.com) or Cameron Loth (Cameron.Loth@bp.com).

Based on information and belief formed after reasonable inquiry, the statements and information in this report are true, accurate, and complete.

Sincerely,

DocuSigned by:
Des Gillen
90F20640AD13450...

Des Gillen
President - BP-Husky Refining LLC

Attachment A – CMS Summary Report
Attachment B – Data Assessment Report

Attachment A – CMS Summary Report

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: H₂S

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H₂S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 5/15/2022

Process Unit(s) Description: Crude 1 Furnace (0448020007B015)

Total Source Operating Time in Reporting Period²: 721 hr

Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	13
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	1.8
<small>2 Record all times in hours.</small> <small>³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.</small>			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President, BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: H₂S

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H₂S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 5/15/2022

Process Unit(s) Description: Coker 2 Furnace (0448020007B017)

Total Source Operating Time in Reporting Period²: 367 hr


Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	13
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	3.5
<small>2 Record all times in hours.</small>			
<small>³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.</small>			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: H₂S

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H₂S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 5/15/2022

Process Unit(s) Description: Crude Vac 2 Furnace (0448020007B019)

Total Source Operating Time in Reporting Period²: 2,183 hr

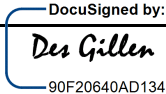
Emission Data Summary		CMS Perfomance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	13
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	0.6
<small>2 Record all times in hours.</small>			
<small>³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.</small>			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: H₂S

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H₂S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 5/15/2022

Process Unit(s) Description: Naphtha Treater Furnace (0448020007B022)

Total Source Operating Time in Reporting Period²: 477 hr

Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	13
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	2.7
<small>2 Record all times in hours.</small> <small>³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.</small>			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: H₂S

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H₂S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 5/15/2022

Process Unit(s) Description: DHT A-Train Furnace (0448020007B029)

Total Source Operating Time in Reporting Period²: 477 hr (TIU fuel gas was combusted for 477 hours and natural gas was combusted for 0 hours for a total of 477 hours this quarter)


Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	13
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	2.7
2 Record all times in hours.			
³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: H₂S

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H₂S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 5/15/2022

Process Unit(s) Description: BGOT Furnace (0448020007B030)

Total Source Operating Time in Reporting Period²: 496 hr (TIU fuel gas was combusted for 496 hours and natural gas was combusted for 0 hours for a total of 496 hours this quarter)

Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	13
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	2.6
² Record all times in hours.			
³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen

Title: President BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: H₂S

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H₂S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 5/15/2022

Process Unit(s) Description: Vac 1 Furnace (0448020007B031)

Total Source Operating Time in Reporting Period²: 466 hr

Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	13
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	2.8
2 Record all times in hours.			
³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by:

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: H₂S

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H₂S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 5/15/2022

Process Unit(s) Description: Coker 3 Furnace (0448020007B032)

Total Source Operating Time in Reporting Period²: 441 hr


Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	13
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	2.9
² Record all times in hours. ³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: H₂S

Reporting Period Dates: **From:** April 1, 2022 **To:** June 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H₂S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 5/15/2022

Process Unit(s) Description: East BGOT Furnace (0448020007B033)

Total Source Operating Time in Reporting Period²: 502 hr

Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	13
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	2.6
2 Record all times in hours.			
³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: H₂S

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H₂S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 5/15/2022

Process Unit(s) Description: East Alstom Boiler (0448020007B034)

Source Operating Time in Reporting Period²: 1,767 hr (TIU fuel gas was combusted for 0 hours and natural gas was combusted for 1,767 hours for a total of 1,767 hours this quarter)

Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	13
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	0.7

2 Record all times in hours.


³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: H₂S

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H₂S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 5/15/2022

Process Unit(s) Description: FCC/CO Boiler (0448020007P007)

Total Source Operating Time in Reporting Period²: 516 hr


Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	13
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	2.5
<small>2 Record all times in hours.</small> <small>³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.</small>			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature:  90F20640AD13450...

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - TIU MIX DRUM H2S CMS REPORT FOR 2ND QUARTER 2022											
EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
B015 - Crude 1 Furnace; B019 - Crude 2 Furnace; B022 - Naphtha Treater Furnace; B029 - DHT A - Train Furnace B030 - DHT B - Train Furnace; B031 - Vac 1 Furnace; B032 - Coker 3 Furnace B033 - East BGOT Furnace; B034 - East Alstom Boiler; B035 - West Alstom Boiler; P007 - FCC/CO Boiler	No	Yes	Continuous Monitoring System	4/24/2022 at 20:00 hours	4/25/2022 at 9:00 hours	CEMS downtime for 13 hours	CEMS Datalogger locked up resulting in irretrievable data.	CEMS Datalogger froze and did not collect data	No	No	No

FIGURE 1 - SUMMARY REPORT

GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: Total Sulfur

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 21.02 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 6/1/2022

Process Unit(s) Description: Crude Vac 2 Furnace (0448020007B019)

Total Source Operating Time in Reporting Period²: 2,183 hr

Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	13
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	0.6
<small>² Record all times in hours.</small>			
<small>³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.</small>			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President, BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: Total Sulfur

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 6.45 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 6/1/2022

Process Unit(s) Description: Naphtha Treater Furnace (0448020007B022)

Total Source Operating Time in Reporting Period²: 477 hr


Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	13
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	2.7
<small>² Record all times in hours.</small>			
<small>³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.</small>			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

(TIU fuel gas was combusted for 477 hours and natural gas was combusted for 0 hours for a total of 477 hours this quarter)

Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	13
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	2.7
2 Record all times in hours.			
³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.			

Not applicable - no changes from previous quarter.

Date: _____

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FIGURE 1 - SUMMARY REPORT

GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: Total Sulfur

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 3.86 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 6/1/2022

Process Unit(s) Description: BGOT Furnace (0448020007B030)

Total Source Operating Time in Reporting Period²: 496 hr (TIU fuel gas was combusted for 496 hours and natural gas was combusted for 0 hours for a total of 496 hours this quarter)

Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	13
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	2.6
<small>2 Record all times in hours.</small>			
<small>³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.</small>			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by:
Des Gillen

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: Total Sulfur

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 11.62 tons SO₂ per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 6/1/2022

Process Unit(s) Description: Vac 1 Furnace (0448020007B031)

Total Source Operating Time in Reporting Period²: 466 hr

Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	13
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	2.8
<small>² Record all times in hours.</small>			
<small>³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.</small>			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President, BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: Total Sulfur

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 20.46 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 6/1/2022

Process Unit(s) Description: Coker 3 Furnace (0448020007B032)

Total Source Operating Time in Reporting Period²: 441 hr


Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	13
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	2.9
<small>2 Record all times in hours.</small>			
<small>³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.</small>			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT **GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹**

Pollutant: Total Sulfur

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 3.86 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 6/1/2022

Process Unit(s) Description: East BGOT Furnace (0448020007B033)

Total Source Operating Time in Reporting Period²: 502 hr

Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	13
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	2.6
<small>2 Record all times in hours.</small>			
<small>³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.</small>			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT

Reporting Period Dates:

From: April 1, 2022

To: July 1, 2022

Company:

BP-Husky Refining LLC

Emission Limitation:

3.86 tons SO2 per rolling 12-month period

Address:

4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.:

Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit:

6/1/2022

Process Unit(s) Description:

East Alstom Boiler (0448020007B034) and West Alstom Boiler (0448020007B035)

Source Operating Time in Reporting Period²:

2,659 hr

(TIU fuel gas was combusted for 643 hours in at least one of the Alstom Boilers for the quarter. Natural gas was combusted for 2,016 hours in both Alstom Boilers for the quarter.)

Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	13
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	0.5
2 Record all times in hours.			
³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature:  DocuSigned by:

Title: President, BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - TIU MIX DRUM TS CMS REPORT FOR 2ND QUARTER 2022											
EMISSIONS UNIT ID/Description	Reporting Requirement (choose)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
B015 - Crude 1 Furnace; B022 - Naphtha Treater Furnace; B029 - DHT A - Train Furnace B030 - DHT B - Train Furnace; B031 - Vac 1 Furnace; B032 - Coker 3 Furnace B033 - East BGOT Furnace; B034/B035 - East and West Alstom Boilers; P007 - FCC/CO Boiler	No	Yes	Continuous Monitoring System	4/24/2022 at 20:00 hours	4/25/2022 at 9:00 hours	CEMS downtime for 13 hours	CEMS Datalogger locked up resulting in irretrievable data.	CEMS Datalogger froze and did not collect data	No	No	No

FIGURE 1 - SUMMARY REPORT

GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: H₂S

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H₂S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30028039490020

Date of Latest CMS Certification or Audit: 5/2/2022

Process Unit(s) Description: Iso 2 Feed Heater (0448020007B008)

Total Source Operating Time in Reporting Period²: 2,184 hr

Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	14	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	30
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	14	2. Total CMS Downtime	30
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.64	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	1.4
<small>² Record all times in hours.</small>			
<small>³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.</small>			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT

GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: H₂S

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H₂S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30028039490020

Date of Latest CMS Certification or Audit: 5/2/2022

Process Unit(s) Description: Iso 2 Stabilizer Reboiler (0448020007B009)

Total Source Operating Time in Reporting Period²: 2,184 hr


Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	14	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	30
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	14	2. Total CMS Downtime	30
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.64	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	1.4
2 Record all times in hours.			
³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT

GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: H₂S

Reporting Period Dates: From: April 1, 2022 To: July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 0.10 gr H₂S/dscf fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30028039490020

Date of Latest CMS Certification or Audit: 5/2/2022

Process Unit(s) Description: Iso 2 Splitter Reboiler (0448020007B010)

Total Source Operating Time in Reporting Period²: 2,184 hr

Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	14	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	30
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	14	2. Total CMS Downtime	30
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.64	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	1.4
2 Record all times in hours.			
³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President, BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - EAST SIDE MIX DRUM H2S CMS REPORT FOR 2ND QUARTER 2022

EMISSIONS UNIT ID/Description	Reporting Requirement (choose)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
B008 - Iso 2 Feed Heater B009 - Iso 2 Stabilizer Reboiler B010 - Iso 2 Splitter Reboiler	Yes	No	Continuous Monitoring System	5/7/2022 at 01:00 hours	5/7/2022 at 15:00 hours	CEMS excess emissions for 14 hours	During the refinery turnaround, some of the high H2S concentration process gas was routed to Chemtrade. An upset occurred in the East Side Amine strippers causing Chemtrade to trip offline. The high H2S process and purge gases were routed back to the refinery's flare gas recovery system, which ultimately went to the fuel gas system and caused the H2S exceedance in the East Side Fuel gas.	Operations increased the temperature in the amine system to increase stripping and better treat the high H2S gas being sent to the refinery fuel gas recovery system. The high H2S process and purge gas was gradually transferred back to Chemtrade in order to keep Chemtrade from tripping off again	No	5/7/2022	5/7/2022
B008 - Iso 2 Feed Heater B009 - Iso 2 Stabilizer Reboiler B010 - Iso 2 Splitter Reboiler	No	Yes	Continuous Monitoring System	4/10/2022 at 12:00 hours	4/11/2022 at 18:00 hours	CEMS downtime for 30 hours	Analyzer was isolated to address an unrelated process leak.	Analyzer was recalibrated and returned to service following the unrelated process leak repair.	No	No	No

FIGURE 1 - SUMMARY REPORT

GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: H₂S

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 162 ppmv H₂S in fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30029994471080

Date of Latest CMS Certification or Audit: 5/2/2022

Process Unit(s) Description: Reformer 3 Furnace (0448020007B036)

Total Source Operating Time in Reporting Period²: 2,208 hr (Reformer 3 fuel gas was combusted for 2,208 hours and natural gas was combusted for 0 hours for a total of 2,208 hours this quarter)

Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	15	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	15	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.7	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	0.0
² Record all times in hours.			
³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen

Title: President BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: H₂S

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 60 ppmv H₂S in fuel gas on a 365-day rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30029994471080

Date of Latest CMS Certification or Audit: 5/2/2022

Process Unit(s) Description: Reformer 3 Furnace (0448020007B036)

Total Source Operating Time in Reporting Period²: 2,208 hr


Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	15	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	15	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.7	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	0.0
² Record all times in hours.			
³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - REFORMER 3 FURNACE H2S CMS REPORT FOR 2ND											
EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION		PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	
	Quarterly	Semi- Annual		DEVIATION DURATION							DESCRIPTION AND MAGNITUDE OF THE DEVIATION
				Date / Time Start	Date / Time End						
B036 - Reformer 3 Furnace	Yes	No	Continuous Monitoring System	5/7/2022 at 01:00 hours	5/7/2022 at 16:00 hours	CEMS excess emissions for 15 hours During refinery turnaround, some of the high H2S concentration process gas was routed to Chemtrade. An upset occurred in the East Side Amine strippers causing Chemtrade to trip offline. The high H2S process and purge gases were routed back to the refinery's flare gas recovery system, which ultimately went to the fuel gas system and caused the H2S exceedance in the fuel gas.	Operations increased the temperature in the amine system to increase stripping and better treat the high H2S gas being sent to the refinery fuel gas recovery system. The high H2S process and purge was gradually transferred back to Chemtrade in order to keep Chemtrade from tripping off again.	No	5/7/2022	5/7/2022	

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: H₂S

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 162 ppmv H₂S in fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30050531960100

Date of Latest CMS Certification or Audit: 5/2/2022

Process Unit(s) Description: East Flare (0448020007P003)

Total Source Operating Time in Reporting Period²: 2,159 hr

Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	16
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	8	c. Quality assurance calibration	2
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	8	2. Total CMS Downtime	18
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.4	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	0.8
² Record all times in hours.			
³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by: Des Gillen

Title: President BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - EAST FLARE H2S CMS REPORT FOR 2ND QUARTER 2022

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi- Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
P003 - East Flare	No	Yes	Continuous Monitoring System	6/16/2022 at 16:00 hours	6/17/2022 at 08:00 hours	CEMS out-of-control time for 16 hours	Recalibrate for Drift	Adjusted gate and re-ran calibration. Returned analyzer to service.	No	No	No
P003 - East Flare	Yes	No	Continuous Monitoring System	6/14/2022 at 10:00 hours	6/14/2022 at 18:00 hours	CEMS excess emissions for 8 hours	During the refinery-wide planned maintenance turnaround, a leaking connection was identified that was not part of the original planned work scope. A BPH operator took the opportunity to repair the identified leaking connection. However, the operator misunderstood the flow of the header and closed the wrong valve. This inadvertently isolated the instrument air header to the CV2 unit, which was not shutdown at that time. All of the control valves in the CV2 unit went to their fail safe position causing the CV2 furnace trip and a CV2 unit upset.	The operator failed to identify the correct point of isolation due to the complexity of the system. The operator was coached on the importance of developing an isolation plan following the incident. The incident was communicated across the site to reinforce site procedural requirements for Control of Work and Isolations.	No	6/14/2022	6/14/2022
P003 - East Flare	No	Yes	Continuous Monitoring System	5/2/2022 at 16:00 hours	5/2/2022 at 18:00 hours	CEMS downtime for 2 hours	CGA Test Completed	Recalibrated and returned analyzer to service.	No	No	No

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: Total Sulfur

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: NA - Analyzer used to calculate SO₂ emissions

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-10430115

Date of Latest CMS Certification or Audit: TS Low: 5/13/2022; TS High: 5/03/2022

Process Unit(s) Description: East Flare (0448020007P003)

Total Source Operating Time in Reporting Period²: 2,159 hr

Emission Data Summary		CEMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	NA	a. Monitor equipment malfunctions	0
b. Control equipment problems	NA	b. Non-monitor equipment malfunctions	0
c. Process Problems	NA	c. Quality assurance calibration	0
d. Other known causes	NA	d. Other known causes	0
e. Unknown causes	NA	e. Unknown causes	0
2. Total duration of excess emissions	NA	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	NA	3. [Total CEMS Downtime] x (100) / [Total source operating time] % ³	0.0
² Record all times in hours.			
³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CEMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.			

Describe any changes since last quarter in CEMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by:

Title: President, BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - EAST FLARE TS CMS REPORT FOR 2ND QUARTER 2022

EMISSIONS UNIT ID/Description	Reporting Requirement (choose		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi- Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
P003 - East Flare	Yes	No	Continuous Monitoring System	No downtime or excess emissions during this reporting quarter.							

FIGURE 1 - SUMMARY REPORT

GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: H₂S

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 162 ppmv H₂S in fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 30050531960400

Date of Latest CMS Certification or Audit: 5/10/2022

Process Unit(s) Description: West Flare Vent Gas (0448020007P004)

Total Source Operating Time in Reporting Period²: 637 hr

Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.00	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	0.00
² Record all times in hours.			
³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by:
Des Gillen

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: H₂S

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 162 ppmv H₂S in fuel gas on a 3-hr rolling average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Siemens Maxum II, SN: 009300

Date of Latest CMS Certification or Audit: 5/15/2022

Process Unit(s) Description: West Flare C Valve (0448020007P004)

Total Source Operating Time in Reporting Period²: 637 hr

Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	NA	a. Monitor equipment malfunctions	0
b. Control equipment problems	NA	b. Non-monitor equipment malfunctions	13
c. Process Problems	NA	c. Quality assurance calibration	0
d. Other known causes	NA	d. Other known causes	0
e. Unknown causes	NA	e. Unknown causes	0
2. Total duration of excess emissions	NA	2. Total CMS Downtime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	NA ⁴	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	2.0
² Record all times in hours.			
³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.			
⁴ Excess emissions are reported in the West Flare Vent Gas section, and are not included in this section to avoid double counting.			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by:

Des Gillen
Title: President BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - WEST FLARE H2S CMS REPORT FOR 2ND QUARTER 2022

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi- Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
P004 - West Flare "C" Valve	No	Yes	Continuous Monitoring System	4/24/2022 at 20:00 hours	4/25/2022 at 9:00 hours	CEMS downtime for 13 hours	CEMS Datalogger locked up resulting in irretrievable data.	CEMS Datalogger froze and did not collect data	No	No	No

FIGURE 1 - SUMMARY REPORT

GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: Total Sulfur

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: NA - Analyzer used to calculate SO2 emissions

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-10440115

Date of Latest CMS Certification or Audit: TS Low: 5/13/2022; TS High: 5/12/2022

Process Unit(s) Description: West Flare Vent Gas (0448020007P004)

Total Source Operating Time in Reporting Period²: 637 hr

Emission Data Summary		CEMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	NA	a. Monitor equipment malfunctions	147
b. Control equipment problems	NA	b. Non-monitor equipment malfunctions	0
c. Process Problems	NA	c. Quality assurance calibration	0
d. Other known causes	NA	d. Other known causes	0
e. Unknown causes	NA	e. Unknown causes	0
2. Total duration of excess emissions	NA	2. Total CEMS Downtime	147
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	NA	3. [Total CEMS Downtime] x (100) / [Total source operating time] % ³	23.06
² Record all times in hours.			
³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CEMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.			

Describe any changes since last quarter in CEMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by:

Des Gillen
Title: President, BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT

GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: Total Sulfur

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: NA - Analyzer used to calculate SO2 emissions

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Thermo Scientific SOLA II, SN: SL-09030713

Date of Latest CMS Certification or Audit: 6/1/2022

Process Unit(s) Description: West Flare C Valve (0448020007P004)

Total Source Operating Time in Reporting Period²: 637 hr


Emission Data Summary		CEMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	NA	a. Monitor equipment malfunctions	0
b. Control equipment problems	NA	b. Non-monitor equipment malfunctions	13
c. Process Problems	NA	c. Quality assurance calibration	0
d. Other known causes	NA	d. Other known causes	0
e. Unknown causes	NA	e. Unknown causes	0
2. Total duration of excess emissions	NA	2. Total CEMS Downtime	13
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	NA	3. [Total CEMS Downtime] x (100) / [Total source operating time] % ³	2.0
² Record all times in hours.			
³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.			

Describe any changes since last quarter in CEMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - WEST FLARE TS CMS REPORT FOR 2ND QUARTER 2022

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi- Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
P004 - West Flare	Yes	No	Continuous Monitoring System	4/22/2022 at 12:00 hours	4/28/2022 at 15:00 hours	CEMS downtime for 147 hours	Recalibrate for Drift	Recalibrated and returned analyzer to service.	No	No	No
P004 - West Flare "C" Valve	No	Yes	Continuous Monitoring System	4/24/2022 at 20:00 hours	4/25/2022 at 9:00 hours	CEMS downtime for 13 hours	CEMS Datalogger locked up resulting in irretrievable data.	CEMS Datalogger froze and did not collect data	No	No	No

FIGURE 1 - SUMMARY REPORT

GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: NOx

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 40 ppm_{vd} (30-day rolling average)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2

Date of Latest CEMS Certification or Audit: 4/8/2022

Process Unit(s) Description: Reformer 3 Furnace (0448020007B036)

Total Source Operating Time in Reporting Period²: 2,208 hr

Emission Data Summary		CEMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CEMS Downtime] x (100) / [Total source operating time] % ³	0.0
² Record all times in hours.			
³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CEMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.			

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by:
Des Gillen

Title: President, BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - REFORMER 3 FURNACE NOx CEMS REPORT FOR 2ND QUARTER 2022											
EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION		PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	
	Quarterly	Semi- Annual		DEVIATION DURATION							DESCRIPTION AND MAGNITUDE OF THE DEVIATION
				Date / Time Start	Date / Time End						
B036 - Reformer 3 Furnace	Yes	No	Continuous Emission Monitoring System (CEMS)	No downtime or excess emissions during this reporting quarter.							

FIGURE 1 - SUMMARY REPORT

GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: CO

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 500 ppmv CO, db, 1-hr average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB URAS 14, SN: 3.240684.3

Date of Latest CEMS Certification or Audit: 4/7/2022

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period²: 70 hr


Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	0.0
<small>2 Record all times in hours. hours of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.</small>			
<small>³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.</small>			

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature:  Des Gillen

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - FCC REGEN VENT CO CEMS REPORT 2ND QUARTER 2022

EMISSIONS UNIT ID/Description	Reporting Requirement (choose		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)
	Quarterly	Semi- Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	No downtime or excess emissions during this reporting quarter.							

FIGURE 1 - SUMMARY REPORT

GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: NOx

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 58.1 ppmv NOx db @ 0% O2 (365-day rolling avg)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240682.3

Date of Latest CEMS Certification or Audit: 4/7/2022

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period²: 70 hr

Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	0.0
<small>2 Record all times in hours. hours of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.</small>			
<small>³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.</small>			

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by:

Des Gillen
Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: NOx

Reporting Period Dates: From: April 1, 2022 To: July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 93.4 ppmv NOx db @ 0% O2 (7-day rolling avg)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240682.3

Date of Latest CEMS Certification or Audit: 4/7/2022

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period²: 70 hr


Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	0.0
2 Record all times in hours. hours of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.			
³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.			

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - FCC REGEN VENT NOx CEMS REPORT 2ND QUARTER 2022

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION		PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)	
	Quarterly	Semi- Annual		DEVIATION DURATION							DESCRIPTION AND MAGNITUDE OF THE DEVIATION
				Date / Time Start	Date / Time End						
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	No downtime or excess emissions during this reporting quarter.							

FIGURE 1 - SUMMARY REPORT

GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: SO₂

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 260 ppmvd SO₂ at 0% excess O₂ as a rolling 7-day average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O₂, SN: 3.240685.3

Date of Latest CEMS Certification or Audit: 4/7/2022

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period²: 70 hr

Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CEMS Downtime] x (100) / [Total source operating time] % ³	0.0
² Record all times in hours. hours of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.			
³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.			

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President, BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT

GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: SO₂

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 160 ppmvd SO2 at 0% excess O2 as a rolling 365-day average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240685.3

Date of Latest CEMS Certification or Audit: 4/7/2022

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period²: 70 hr


Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	0.0
2 Record all times in hours. hours of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.			
³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.			

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT

GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: SO₂

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 1,020 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240685.3

Date of Latest CEMS Certification or Audit: 4/7/2022

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period²: 70 hr


Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	0.0
² Record all times in hours. hours of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.			
³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent of greater of the total operating time, both the summary report form and the excess emission report shall be submitted.			

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT

GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: SO₂

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 0.92 lb SO₂ per 1000 lb of fresh feed

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2, SN: 3.240685.3

Date of Latest CEMS Certification or Audit: 4/7/2022

Process Unit(s) Description: FCCU/CO Boiler Bypass, 0448020007P007

Total Source Operating Time in Reporting Period²: 70 hr

Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	0.0
<small>2 Record all times in hours. hours of operation are defined as when FCCU feed was in the unit and the CO Boiler bypass stack was in service.</small>			
<small>³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.</small>			

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by:

Title: President BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - FCC/CO BOILER SO2 CEMS REPORT 2ND QUARTER 2022											
EMISSIONS UNIT ID/Description	Reporting Requirement (choose		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION		PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)	
	Quarterly	Semi- Annual		DEVIATION DURATION							DESCRIPTION AND MAGNITUDE OF THE DEVIATION
				Date / Time Start	Date / Time End						
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	No downtime or excess emissions during this reporting quarter.							

FIGURE 1 - SUMMARY REPORT

GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: CO

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 500 ppmv CO, db, 1-hr average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB URAS 26, SN: 3.347698.3

Date of Latest CEMS Certification or Audit: 4/6/2022

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period²: 516 hr


Emission Data Summary		CEMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. Total CEMS Downtime] x (100) / [Total source operating time] % ³	0.0
<small>² Record all times in hours.</small>			
<small>³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.</small>			

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President, BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - FCC/CO BOILER CO CEMS REPORT 2ND QUARTER 2022											
EMISSIONS UNIT ID/Description	Reporting Requirement (choose		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION		PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)	
	Quarterly	Semi- Annual		DEVIATION DURATION							DESCRIPTION AND MAGNITUDE OF THE DEVIATION
				Date / Time Start	Date / Time End						
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	No downtime or excess emissions during this reporting quarter.							

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: NOx

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 93.4 ppmv NOx db @ 0% O2 (7-day rolling avg)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7

Date of Latest CEMS Certification or Audit: 4/6/2022

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period²: 516 hr

Emission Data Summary		CEMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CEMS Downtime] x (100) / [Total source operating time] % ³	0.0
2 Record all times in hours.			
³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.			

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT

GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: NO_x

Reporting Period Dates: From: April 1, 2022 To: July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 58.1 ppmv NO_x db @ 0% O₂ (365-day rolling avg)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7

Date of Latest CEMS Certification or Audit: 4/6/2022

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period²: 516 hr


Emission Data Summary		CEMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CEMS Downtime] x (100) / [Total source operating time] % ³	0.0
<small>2 Record all times in hours.</small>			
<small>³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.</small>			

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - FCC/CO BOILER NOx CEMS REPORT 2ND QUARTER 2022											
EMISSIONS UNIT ID/Description	Reporting Requirement (choose		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION		PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)	
	Quarterly	Semi- Annual		DEVIATION DURATION							DESCRIPTION AND MAGNITUDE OF THE DEVIATION
				Date / Time Start	Date / Time End						
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	No downtime or excess emissions during this reporting quarter.							

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: SO₂

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 260 ppmvd SO2 at 0% excess O2 as a rolling 7-day average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7

Date of Latest CEMS Certification or Audit: 4/6/2022

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period²: 516 hr

Emission Data Summary		CEMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CEMS Downtime] x (100) / [Total source operating time] % ³	0.0
<small>2 Record all times in hours.</small>			
<small>³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.</small>			

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: SO₂

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 160 ppmvd SO2 at 0% excess O2 as a rolling 365-day average

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7

Date of Latest CEMS Certification or Audit: 4/6/2022

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period²: 516 hr

Emission Data Summary		CEMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CEMS Downtime] x (100) / [Total source operating time] % ³	0.0
<small>2 Record all times in hours.</small>			
<small>³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.</small>			

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: SO₂

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 1,020 tons SO2 per rolling 12-month period

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7

Date of Latest CEMS Certification or Audit: 4/6/2022

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period²: 516 hr

Emission Data Summary		CEMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CEMS Downtime] x (100) / [Total source operating time] % ³	0.0
<small>2 Record all times in hours.</small>			
<small>³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.</small>			

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: SO₂

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 0.92 lb SO2 per 1000 lb of fresh feed

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS 106, SN: 3.340641.7

Date of Latest CEMS Certification or Audit: 4/6/2022

Process Unit(s) Description: CO Boiler Exhaust, including FCC Regen Flue Gas, 0448020007P007

Total Source Operating Time in Reporting Period²: 516 hr

Emission Data Summary		CEMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CEMS Downtime] x (100) / [Total source operating time] % ³	0.0
<small>2 Record all times in hours.</small>			
<small>³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.</small>			

Describe any changes since last quarter in CEMS, process, or controls.

Not Applicable - No changes since the previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - FCC REGEN VENT SO2 CEMS REPORT 2ND QUARTER 2022											
EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION		PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)	
	Quarterly	Semi- Annual		DEVIATION DURATION							DESCRIPTION AND MAGNITUDE OF THE DEVIATION
				Date / Time Start	Date / Time End						
P007 - FCCU / CO Boiler Bypass Stack	Yes	No	Continuous Emissions Monitoring System (CEMS)	No downtime or excess emissions during this reporting quarter.							

FIGURE 1 - SUMMARY REPORT

GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: SO₂

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 250 ppm SO₂ dry, 0% excess O₂ (12-hour average)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Ametek Model 919, SN: ZB-919SP-10541-1

Date of Latest CEMS Certification or Audit: 4/13/2022

Process Unit(s) Description: #1 Claus Sulfur Recovery Unit with SCOT Unit (0448020007P009)

Total Source Operating Time in Reporting Period²: 525 hr

Emission Data Summary		CEMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown ⁴ :	26	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	26	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	5.0	3. [Total CEMS Downtime] x (100) / [Total source operating time] % ³	0.0
² Record all times in hours			
³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.			
4 For the reporting period: Shutdown emissions are exempt per 40 CFR 60.8(c)			

Describe any changes since last quarter in CEMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: DocuSigned by:

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC SRU #1 SO2 CEMS REPORT FOR 2ND QUARTER 2022

EMISSIONS UNIT ID/Description	Reporting Requirement (choose		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION		PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	
	Quarterly	Semi- Annual		DEVIATION DURATION							DESCRIPTION AND MAGNITUDE OF THE DEVIATION
				Date / Time Start	Date / Time End						
P009 - Sulfur Recovery Unit #1	Yes	No	Continuous Emission Monitoring System (CEMS)	4/21/2022 at 3:00 hours	4/22/2022 at 5:00 hours	CEMS excess emissions for 26 hours The Refinery shutdown SRU1 as part of a planned shutdown to perform maintenance activities in the unit. During the planned shutdown, the SO ₂ concentration exceeded the 250 ppm 12-hr rolling average when the unit diverted around the Tail Gas Treating Unit.	During the shutdown of the SRUs the Refinery followed procedures that minimize excess emissions consistent with safety and good air pollution control practices.Per standard refinery shutdown procedures, the SRU shutdown requires the SRU to shutdown prior to shutting down the Tailgas Treating unit, which minimizes emissions due to acid gas being removed from the system. Operations continued to feed natural gas to the unit for as long as safely possible to ensure that as much sulfur and sulfur species were removed prior to diverting around the TGU.	No	4/21/2022	4/21/2022	

Excess Emission and Monitoring System Performance Report
Sulfur Recovery Unit #1 CEMS Report (Source # P009)
2Q2022

In accordance with the applicable PTIs for this source, written reports of excess emissions shall include the following information:

1. The magnitude of excess emissions computed in accordance with §60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.

Sulfur Recovery Unit #1 operated for a total of 525 hours in 2Q. There was one period of excess emissions for this CEMS. Total excess emissions from these periods exceeded 250 ppm SO₂ on a rolling 12-hour basis.

- Start time: 4/21/2022 at 03:00
End time: 4/22/2022 04:00
Duration: 26 hours

2. Specific identification of each period of excess emissions that occurs during start-ups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

This period of excess emissions was due to a planned shutdown of the TRP unit. These emissions are exempt per 40 CFR 60.8(c). Per standard refinery procedures, the refinery shut down the SRU (Claus Reaction) prior to shutting down the TGU, which minimizes emissions due to acid gas being removed from the system. Operations continued to feed natural gas to the unit for as long as possible to ensure that as much sulfur and sulfur species had been removed prior to diverting around the TGU however, prolonged burning of natural gas once sulfur is removed can cause carbon buildup on the reactor catalyst. The SRP shutdown procedures were followed during this shutdown. The procedure development included evaluating ways to minimize emissions during the shutdown process.

3. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

There were zero periods of CEMS downtime for the quarter while the source was in operation.

FIGURE 1 - SUMMARY REPORT
GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: SO₂

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Emission Limitation: 250 ppm SO₂ dry, 0% excess O₂ (12-hour average)

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: Ametek Model 919 and WDG-V, SN: ZX-919-10814-1

Date of Latest CEMS Certification or Audit: 4/12/2022

Process Unit(s) Description: Sulfur Recovery Units # 2 & #3 with TGT #2 (0448020007P037)

Total Source Operating Time in Reporting Period²: 551 hr

Emission Data Summary		CEMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CEMS downtime in reporting period due to:	
a. Start-up/Shutdown ⁴ :	22	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	0
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	22	2. Total CEMS Downtime	0
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	3.99	3. [Total CEMS Downtime] x (100) / [Total source operating time] % ³	0.00
2 Record all times in hours.			
³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report shall be submitted.			
4 For the reporting period: Shutdown emissions are exempt per 40 CFR 60.8(c)			

Describe any changes since last quarter in CEMS, process, or controls.

Not applicable - no changes from previous quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC SRU #2 & SRU #3 SO2 CEMS REPORT FOR 2ND QUARTER 2022

EMISSIONS UNIT ID / Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "No Reports" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "No Reports" in the space below)
	Quarterly	Semi- Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
P037 - Sulfur Recovery Units #2 & #3	Yes	No	Continuous Emission Monitoring System (CEMS)	4/21/2022 at 18:00 hours	4/22/2022 at 16:00 hours	CEMS excess emissions for 22 hours	The Refinery shutdown SRU2&3 as part of a planned shutdown to perform maintenance activities in the units. During the planned shutdown, the SO2 concentration exceeded the 250 ppm 12-hr rolling average when the unit diverted around the Tail Gas Treating Unit.	During the shutdown of the SRUs the Refinery followed procedures that minimize excess emissions consistent with safety and good air pollution control practices.Per standard refinery shutdown procedures, the SRU shutdown requires the SRU to shutdown prior to shutting down the Tailgas Treating unit, which minimizes emissions due to acid gas being removed from the system. Operations continued to feed natural gas to the unit for as long as safely possible to ensure that as much sulfur and sulfur species were removed prior to diverting around the TGU.	No	4/21/2022	4/22/2022

Excess Emission and Monitoring System Performance Report
#2 and 3 Claus Sulfur Recovery Unit CEMS Report (Source # P037)
2Q2022

In accordance with the applicable PTIs for this source, written reports of excess emissions shall include the following information:

1. The magnitude of excess emissions computed in accordance with §60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.

#2 and 3 Sulfur Recovery Units operated for a total of 551.5 hours in 2Q. There was one period of excess emissions for this CEMS. Total excess emissions from these periods exceeded 250 ppm SO₂ on a rolling 12-hour basis.

- Start time: 4/21/2022 at 18:00
End time: 4/22/2022 15:00
Duration: 22 hours

2. Specific identification of each period of excess emissions that occurs during start-ups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

This period of excess emissions was due to a planned shutdown of the TRP unit. These emissions are exempt per 40 CFR 60.8(c). Per standard refinery procedures, the refinery shut down the SRU (Claus Reaction) prior to shutting down the TGU, which minimizes emissions due to acid gas being removed from the system. Operations continued to feed natural gas to the unit for as long as possible to ensure that as much sulfur and sulfur species had been removed prior to diverting around the TGU however, prolonged burning of natural gas once sulfur is removed can cause carbon buildup on the reactor catalyst. The SRP shutdown procedures were followed during this shutdown. The procedure development included evaluating ways to minimize emissions during the shutdown process.

3. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

There were zero periods of CEMS downtime for the quarter while the source was in operation.

Additional Information Required under PTI # 04-1046

- 1. Total SO₂ emissions during calendar quarter (in tons), including any excess emissions attributed to the malfunction, startup, or shutdown of emissions unit P037. (ST&C III.A.iii)**

Total SO₂ emissions from the TRP SRUs during the period April 1, 2022, through June 30, 2022, were calculated at 2.7 tons.

- 2. Total operating time of the CEMS while either SRU was online. (ST&C III.A.iii)**

During the quarter, the total source operating time while either or both SRUs were in service was 551.5 hours. The CEMS was online and monitoring for 551.5 hours while SRU was in service.

During the quarter, there were no periods of CEMS out-of-control time or periods of CEMS downtime.

- 3. Quantification of emissions routed from the SRU to the flare beginning with activation of the relief valve until the release is over. (ST&C VII.A)**

There were no periods during the 2nd quarter when acid gas was sent to the TRP Acid Gas flare.

FIGURE 1 - SUMMARY REPORT

GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: NO_x

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2

Monitor Location: Sample port on East Alstom Boiler Stack; monitor housed at ground level in an analyzer building adjacent the boiler.

Date of Latest CMS Cert or Audit: 4/18/2022

Process Unit(s) Description: East Alstom Boiler (0448020007B034)

Total Source Operating Time in Reporting Period: 1,767 hr (TIU fuel gas was combusted for 0 hours and natural gas was combusted for 1,767 hours for a total of 1,767 hours this quarter)

CMS operating time while emission unit was in operation: 1,766 hr

Emission Limitation: 12.71 lb/hr of NO_x emissions;
38.5 tons/rolling 12-month period of NO_x emissions (combined B034 & B035);
0.10 lb NO_x (as NO₂) per mmBtu heat input 30-day rolling average

Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	1
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	1
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	0.1
<small>² Record all times in hours.</small>			
<small>³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5</small>			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - No changes since last quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President - BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - EAST ALSTOM BOILER NO_x CEMS REPORT FOR 2ND QUARTER 2022

EMISSIONS UNIT ID/Description	Reporting Requirement (choose		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi-Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
B034 - East Alstom Boiler	No	Yes	Continuous Monitoring System	4/18/2022 at 11:00 hours	4/18/2022 at 12:00 hours	CEMS downtime for 1 hour	CGA Test Completed	Recalibrated and returned analyzer to service.	No	No	No

East Alstom Boiler - 2nd Quarter 2022 Db Data

NSPS Db: Supplemental Reporting for NO_x CEM Records as required by 40 CFR 49b(i)

This table contains the information required by 60.49(g)(1-8).
Records for (g)(9-10) are provided in the NSPS Quarterly CEMS Report.

East Alstom Boiler (B034): 353 MMBtu/hr heater fired with refinery fuel gas and/or natural gas

Calculation Methodology: NO_x emissions (lb/MMBtu) calculated from NO_x CEM (ppm) using Methodology in 40 CFR 60 Appendix A Method 19 and F factor of 8710 dscf/MMBtu from Method 19 Table 19-1 when natural gas fired; site-specific F factor determined from fuel analysis when refinery fuel gas fired.

NSPS Limit: 0.10 lb NO_x/MMBtu

Date	Hourly daily average NO _x (lb/MMBtu)	30-day rolling average NO _x (lb/MMBtu)	Excess Emissions (yes/no)	NO _x Conc Exceeded CEM Span? (yes/no)	Comments: Reason for Missing or Invalid Data, or Excess Emissions
4/1/2022	0.022	0.021	No	No	
4/2/2022	0.024	0.022	No	No	
4/3/2022	0.022	0.022	No	No	
4/4/2022	0.025	0.022	No	No	
4/5/2022	0.025	0.022	No	No	
4/6/2022	0.024	0.022	No	No	
4/7/2022	0.023	0.022	No	No	
4/8/2022	0.027	0.022	No	No	
4/9/2022	0.027	0.022	No	No	
4/10/2022	0.024	0.022	No	No	
4/11/2022	0.024	0.022	No	No	
4/12/2022	0.022	0.022	No	No	
4/13/2022	0.020	0.022	No	No	
4/14/2022	0.023	0.022	No	No	
4/15/2022	0.021	0.022	No	No	
4/16/2022	0.020	0.022	No	No	
4/17/2022	0.020	0.022	No	No	
4/18/2022	0.020	0.022	No	No	
4/19/2022	0.020	0.022	No	No	
4/20/2022	0.021	0.022	No	No	
4/21/2022	0.023	0.022	No	No	
4/22/2022	0.024	0.022	No	No	
4/23/2022	0.021	0.022	No	No	
4/24/2022	0.022	0.022	No	No	
4/25/2022	0.018	0.022	No	No	
4/26/2022	0.022	0.022	No	No	
4/27/2022	0.024	0.023	No	No	
4/28/2022	0.024	0.023	No	No	
4/29/2022	0.024	0.023	No	No	
4/30/2022	0.026	0.023	No	No	
5/1/2022	0.026	0.023	No	No	
5/2/2022	0.026	0.023	No	No	
5/3/2022	0.025	0.023	No	No	
5/4/2022	0.024	0.023	No	No	
5/5/2022	0.024	0.023	No	No	
5/6/2022	0.024	0.023	No	No	
5/7/2022	0.023	0.023	No	No	
5/8/2022	0.024	0.023	No	No	
5/9/2022	0.024	0.023	No	No	
5/10/2022	0.022	0.023	No	No	
5/11/2022	0.022	0.023	No	No	
5/12/2022	0.023	0.023	No	No	
5/13/2022	0.022	0.023	No	No	
5/14/2022	0.021	0.023	No	No	
5/15/2022	0.020	0.023	No	No	
5/16/2022	0.020	0.023	No	No	
5/17/2022	0.019	0.023	No	No	
5/18/2022	0.022	0.023	No	No	
5/19/2022	0.024	0.023	No	No	
5/20/2022	0.023	0.023	No	No	
5/21/2022	0.022	0.023	No	No	
5/22/2022	0.023	0.023	No	No	
5/23/2022	0.023	0.023	No	No	
5/24/2022	0.022	0.023	No	No	
5/25/2022	0.021	0.023	No	No	
5/26/2022	0.021	0.023	No	No	

Date	Hourly daily average NOx (lb/MMBtu)	30-day rolling average NOx (lb/MMBtu)	Excess Emissions (yes/no)	NOx Conc Exceeded CEM Span? (yes/no)	Comments: Reason for Missing or Invalid Data, or Excess Emissions
5/27/2022	0.000	0.022	No	No	
5/28/2022	0.022	0.022	No	No	
5/29/2022	0.021	0.022	No	No	
5/30/2022	0.021	0.022	No	No	
5/31/2022	0.000	0.021	No	No	
6/1/2022	0.000	0.020	No	No	
6/2/2022	0.021	0.020	No	No	
6/3/2022	0.026	0.020	No	No	
6/4/2022	0.025	0.020	No	No	
6/5/2022	0.023	0.020	No	No	
6/6/2022	0.000	0.020	No	No	
6/7/2022	0.000	0.020	No	No	
6/8/2022	0.000	0.020	No	No	
6/9/2022	0.000	0.020	No	No	
6/10/2022	0.000	0.019	No	No	
6/11/2022	0.000	0.019	No	No	
6/12/2022	0.000	0.019	No	No	
6/13/2022	0.000	0.019	No	No	
6/14/2022	0.000	0.019	No	No	
6/15/2022	0.000	0.019	No	No	
6/16/2022	0.000	0.019	No	No	
6/17/2022	0.000	0.019	No	No	
6/18/2022	0.000	0.019	No	No	
6/19/2022	0.000	0.018	No	No	
6/20/2022	0.000	0.018	No	No	
6/21/2022	0.000	0.018	No	No	
6/22/2022	0.000	0.018	No	No	
6/23/2022	0.045	0.019	No	No	
6/24/2022	0.037	0.020	No	No	
6/25/2022	0.034	0.021	No	No	
6/26/2022	0.032	0.022	No	No	
6/27/2022	0.034	0.024	No	No	
6/28/2022	0.039	0.026	No	No	
6/29/2022	0.035	0.027	No	No	
6/30/2022	0.030	0.027	No	No	

FIGURE 1 - SUMMARY REPORT

GASEOUS AND OPACITY EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE¹

Pollutant: NO_x

Reporting Period Dates: **From:** April 1, 2022 **To:** July 1, 2022

Company: BP-Husky Refining LLC

Address: 4001 Cedar Point Road, Oregon, Ohio 43616

Monitor Manufacturer and Model No.: ABB LIMAS 11UV and ABB MAGNOS O2

Monitor Location: Sample port on West Alstom Boiler Stack; monitor housed at ground level in an analyzer building adjacent the boiler.

Date of Latest CMS Certification or Audit: 4/18/2022

Process Unit(s) Description: West Alstom Boiler (0448020007B035)

Total Source Operating Time in Reporting Period: 892 hr (TIU fuel gas was combusted for 643 hours and natural gas was combusted for 249 hours for a total of 892 hours this quarter)

CMS operating time while emission unit was in operation: 890 hr

Emission Limitation: 12.71 lb/hr of NO_x emissions;
38.5 tons/rolling 12-month period of NO_x emissions (combined B034 & B035);
0.10 lb NO_x (as NO₂) per mmBtu heat input 30-day rolling average

Emission Data Summary		CMS Performance Summary	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Start-up/Shutdown:	0	a. Monitor equipment malfunctions	0
b. Control equipment problems	0	b. Non-monitor equipment malfunctions	0
c. Process Problems	0	c. Quality assurance calibration	2
d. Other known causes	0	d. Other known causes	0
e. Unknown causes	0	e. Unknown causes	0
2. Total duration of excess emissions	0	2. Total CEMS Downtime	2
3. Total duration of excess emissions x (100) / [Total source operating time] % ³	0.0	3. [Total CMS Downtime] x (100) / [Total source operating time] % ³	0.2
<small>² Record all times in hours.</small>			
<small>³ For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5</small>			

Describe any changes since last quarter in CMS, process, or controls.

Not applicable - No changes since last quarter.

I certify that the information contained in this report is true, accurate, and complete.

Name: Des Gillen

Signature: 

Title: President, BP-Husky Refining LLC

Date: _____

¹ Form described in 40 CFR 60.7 (d)

BP-HUSKY REFINING LLC - WEST ALSTOM BOILER NO_x CEMS REPORT FOR 2ND QUARTER 2022

EMISSIONS UNIT ID/Description	Reporting Requirement (choose one or both)		ACTUAL METHOD USED TO DETERMINE COMPLIANCE	DEVIATION INFORMATION			PROBABLE CAUSE FOR THE DEVIATION	CORRECTIVE ACTIONS / PREVENTATIVE MEASURES TAKEN	WAS DEVIATION ATTRIBUTABLE TO A MALFUNCTION? (Yes or No - If Yes, continue to the next column)	MALFUNCTION VERBAL REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)	MALFUNCTION WRITTEN REPORT DATE (If no reports were made, state "NO REPORTS" in the space below)
	Quarterly	Semi- Annual		DEVIATION DURATION		DESCRIPTION AND MAGNITUDE OF THE DEVIATION					
				Date / Time Start	Date / Time End						
B035 - West Alstom Boiler	No	Yes	Continuous Monitoring System	4/18/2022 at 10:00 hours	4/18/2022 at 11:00 hours	CEMS downtime for 1 hours	CGA Test Completed	Recalibrated and Returned Analyzer to service.	No	No	No

West Alstom Boiler - 2nd Quarter 2022 Db Data

NSPS Db: Supplemental Reporting for NO_x CEM Records as required by 40 CFR 49b(i)

This table contains the information required by 60.49(g)(1-8).

Records for (g)(9-10) are provided in the NSPS Quarterly CEMS Report.

West Alstom Boiler (B035): 353 MMBtu/hr heater fired with refinery fuel gas and/or natural gas

Calculation Methodology: NO_x emissions (lb/MMBtu) calculated from NO_x CEM (ppm) using Methodology in 40 CFR 60 Appendix A Method 19 and F factor of 8710 dscf/MMBtu from Method 19 Table 19-1 when natural gas fired; site-specific F factor determined from fuel analysis when refinery fuel gas fired.

NSPS Limit: 0.10 lb NO_x/MMBtu

Date	Hourly daily average NO _x (lb/MMBtu)	30-day rolling average NO _x (lb/MMBtu)	Excess Emissions (yes/no)	NO _x Conc Exceeded CEM Span? (yes/no)	Comments: Reason for Missing or Invalid Data, or Excess Emissions
4/1/2022	0.026	0.026	No	No	
4/2/2022	0.026	0.026	No	No	
4/3/2022	0.027	0.026	No	No	
4/4/2022	0.026	0.026	No	No	
4/5/2022	0.028	0.026	No	No	
4/6/2022	0.026	0.026	No	No	
4/7/2022	0.027	0.026	No	No	
4/8/2022	0.033	0.027	No	No	
4/9/2022	0.035	0.027	No	No	
4/10/2022	0.030	0.027	No	No	
4/11/2022	0.027	0.027	No	No	
4/12/2022	0.028	0.027	No	No	
4/13/2022	0.031	0.027	No	No	
4/14/2022	0.035	0.028	No	No	
4/15/2022	0.029	0.028	No	No	
4/16/2022	0.028	0.028	No	No	
4/17/2022	0.028	0.028	No	No	
4/18/2022	0.027	0.028	No	No	
4/19/2022	0.028	0.028	No	No	
4/20/2022	0.026	0.028	No	No	
4/21/2022	0.023	0.028	No	No	
4/22/2022	0.028	0.028	No	No	
4/23/2022	0.031	0.028	No	No	
4/24/2022	0.026	0.028	No	No	
4/25/2022	0.025	0.028	No	No	
4/26/2022	0.020	0.028	No	No	
4/27/2022	0.021	0.028	No	No	
4/28/2022	0.022	0.027	No	No	
4/29/2022	0.025	0.027	No	No	
4/30/2022	0.024	0.027	No	No	
5/1/2022	0.042	0.028	No	No	
5/2/2022	0.046	0.028	No	No	
5/3/2022	0.000	0.028	No	No	
5/4/2022	0.000	0.027	No	No	
5/5/2022	0.000	0.026	No	No	
5/6/2022	0.000	0.025	No	No	
5/7/2022	0.000	0.024	No	No	
5/8/2022	0.000	0.023	No	No	
5/9/2022	0.000	0.022	No	No	
5/10/2022	0.000	0.021	No	No	
5/11/2022	0.000	0.020	No	No	
5/12/2022	0.000	0.019	No	No	
5/13/2022	0.000	0.018	No	No	
5/14/2022	0.000	0.017	No	No	
5/15/2022	0.000	0.016	No	No	
5/16/2022	0.000	0.015	No	No	
5/17/2022	0.000	0.014	No	No	
5/18/2022	0.000	0.013	No	No	
5/19/2022	0.000	0.013	No	No	
5/20/2022	0.000	0.012	No	No	
5/21/2022	0.000	0.011	No	No	
5/22/2022	0.000	0.010	No	No	
5/23/2022	0.000	0.009	No	No	
5/24/2022	0.000	0.008	No	No	
5/25/2022	0.000	0.007	No	No	
5/26/2022	0.000	0.006	No	No	
5/27/2022	0.132	0.010	No	No	

Date	Hourly daily average NOx (lb/MMBtu)	30-day rolling average NOx (lb/MMBtu)	Excess Emissions (yes/no)	NOx Conc Exceeded CEM Span? (yes/no)	Comments: Reason for Missing or Invalid Data, or Excess Emissions
5/28/2022	0.039	0.011	No	No	
5/29/2022	0.024	0.011	No	No	
5/30/2022	0.024	0.011	No	No	
5/31/2022	0.024	0.011	No	No	
6/1/2022	0.024	0.010	No	No	
6/2/2022	0.000	0.009	No	No	
6/3/2022	0.000	0.009	No	No	
6/4/2022	0.000	0.009	No	No	
6/5/2022	0.000	0.009	No	No	
6/6/2022	0.000	0.009	No	No	
6/7/2022	0.000	0.009	No	No	
6/8/2022	0.000	0.009	No	No	
6/9/2022	0.000	0.009	No	No	
6/10/2022	0.000	0.009	No	No	
6/11/2022	0.000	0.009	No	No	
6/12/2022	0.000	0.009	No	No	
6/13/2022	0.000	0.009	No	No	
6/14/2022	0.000	0.009	No	No	
6/15/2022	0.000	0.009	No	No	
6/16/2022	0.000	0.009	No	No	
6/17/2022	0.000	0.009	No	No	
6/18/2022	0.000	0.009	No	No	
6/19/2022	0.000	0.009	No	No	
6/20/2022	0.000	0.009	No	No	
6/21/2022	0.000	0.009	No	No	
6/22/2022	0.000	0.009	No	No	
6/23/2022	0.000	0.009	No	No	
6/24/2022	0.000	0.009	No	No	
6/25/2022	0.000	0.009	No	No	
6/26/2022	0.000	0.009	No	No	
6/27/2022	0.000	0.004	No	No	
6/28/2022	0.000	0.003	No	No	
6/29/2022	0.064	0.004	No	No	
6/30/2022	0.032	0.005	No	No	

Attachment B – Data Assessment Report

Data Assessment Report - East Side Fuel Gas Mix Drum H₂S CMS

Period ending date: June 30 **Year:** 2022
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B008, B009, B010

<i>CEMS Manufacturer:</i> Siemens	<i>Model #:</i> Maxim II	<i>CEMS Serial #:</i> 30028039490020
<i>CEMS type:</i> Hydrogen Sulfide	<i>CEMS sampling location:</i> East Side Fuel Gas Mix Drum	
<i>CEMS span values as per the applicable regulation:</i>		
	<u>PPM</u>	<u>Percent</u>
SO₂		O₂
H₂S	300	CO₂

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for H₂S (ppm):

	H₂S (ppm)	
	Audit #1	Audit #2
1. Date of audit	5/2/2022	5/2/2022
2. Cylinder ID number	CC475533	CC482384
Vendor	AirGas	AirGas
3. Date of certification	10/5/2021	11/11/2019
Expiration date	10/5/2024	11/11/2022
4. Type of certification	EPA Protocol	EPA Protocol
5. Certified audit value	74.29	163.50
6. CEMS response values	73.86	162.86
	73.13	161.85
	72.86	162.77
Average	73.28	162.49
7. Accuracy	-1.36%	-0.62%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
 - a. Dates: None
 - b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - TIU Fuel Gas Mix Drum H₂S CMS

Period ending date: June 30 **Year:** 2022
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B015, B017, B019, B022, B029, B030, B031, B032, B033, B035, P007

<i>CEMS Manufacturer:</i> Siemens	<i>Model #:</i> Maxim II	<i>CEMS Serial #:</i> 30020117999300	
<i>CEMS type:</i> Hydrogen Sulfide	<i>CEMS sampling location:</i> TIU Fuel Gas Mix Drum		
<i>CEMS span values as per the applicable regulation:</i>			
	<u>PPM</u>		<u>Percent</u>
SO₂		O₂	
H₂S	300	CO₂	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for H₂S (ppm):

	H₂S (ppm)	
	Audit #1	Audit #2
1. Date of audit	5/15/2022	5/15/2022
2. Cylinder ID number	CC475533	CC482384
Vendor	AirGas	AirGas
3. Date of certification	10/5/2021	11/11/2019
Expiration date	10/5/2024	11/11/2022
4. Type of certification	EPA Protocol	EPA Protocol
5. Certified audit value	74.29	163.50
6. CEMS response values	74.62	160.86
	73.68	162.98
	73.77	162.03
Average	74.02	161.96
7. Accuracy	-0.36%	-0.94%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
 - a. Dates: None
 - b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - Reformer 3 Heater H₂S CMS

Period ending date: June 30 **Year:** 2022
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B036

CEMS Manufacturer: Siemens	Model #: Maxim II	CEMS Serial #: 30029994471080	
CEMS type: Hydrogen Sulfide	CEMS sampling location: Reformer 3 Heater Fuel Gas		
CEMS span values as per the applicable regulation:			
	<u>PPM</u>		<u>Percent</u>
SO ₂		O ₂	
H ₂ S	300	CO ₂	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for H₂S (ppm):

	H2S (ppm)	
	Audit #1	Audit #2
1. Date of audit	5/2/2022	5/2/2022
2. Cylinder ID number	CC475533	CC482384
Vendor	AirGas	AirGas
3. Date of certification	10/5/2021	11/11/2019
Expiration date	10/5/2024	11/11/2022
4. Type of certification	EPA Protocol	EPA Protocol
5. Certified audit value	74.29	163.50
6. CEMS response values	69.78	153.46
	74.41	155.89
	76.63	155.75
Average	73.61	155.03
7. Accuracy	-0.92%	-5.18%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
 - a. Dates: None
 - b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - East Flare H₂S CMS

Period ending date: June 30 **Year:** 2022
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P003

<i>CEMS Manufacturer:</i> Siemens	<i>Model #:</i> Maxim II	<i>CEMS Serial #:</i> 30050531960100
<i>CEMS type:</i> Hydrogen Sulfide	<i>CEMS sampling location:</i> East Flare	
<i>CEMS span values as per the applicable regulation:</i>		
	<u>PPM</u>	<u>Percent</u>
SO₂		O₂
H₂S	300	CO₂

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for H₂S (ppm):

	H₂S (ppm)	
	Audit #1	Audit #2
1. Date of audit	5/2/2022	5/2/2022
2. Cylinder ID number	CC475533	CC482384
Vendor	AirGas	AirGas
3. Date of certification	10/5/2022	11/11/2019
Expiration date	10/5/2024	11/11/2022
4. Type of certification	EPA Protocol	EPA Protocol
5. Certified audit value	74.29	163.50
6. CEMS response values	73.39	163.28
	74.62	162.86
	73.18	162.32
Average	73.73	162.82
7. Accuracy	-0.75%	-0.42%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
 - a. Dates: None
 - b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - West Flare H₂S CMS

Period ending date: June 30 **Year:** 2022
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P004

<i>CEMS Manufacturer:</i> Siemens	<i>Model #:</i> Maxim II	<i>CEMS Serial #:</i> 30050531960400	
<i>CEMS type:</i> Hydrogen Sulfide	<i>CEMS sampling location:</i> West Flare		
<i>CEMS span values as per the applicable regulation:</i>			
	<u>PPM</u>		<u>Percent</u>
SO₂		O₂	
H₂S	300	CO₂	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for H₂S (ppm):

	H₂S (ppm)	
	Audit #1	Audit #2
1. Date of audit	5/10/2022	5/10/2022
2. Cylinder ID number	CC475533	CC482384
Vendor	AirGas	AirGas
3. Date of certification	10/5/2021	11/11/2019
Expiration date	10/5/2024	11/11/2022
4. Type of certification	EPA Protocol	EPA Protocol
5. Certified audit value	74.29	163.50
6. CEMS response values	71.53	165.68
	72.31	162.68
	73.30	160.49
Average	72.38	162.95
7. Accuracy	-2.57%	-0.34%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
 - a. Dates: None
 - b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - East Flare TS CMS

Period ending date: June 30 **Year:** 2022
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P003

<i>CEMS Manufacturer:</i> ThermoFisher	<i>Model #:</i> Sola II	<i>CEMS Serial #:</i> SL-10430115	
<i>CEMS type:</i> Total Sulfur	<i>CEMS sampling location:</i> East Flare		
<i>CEMS span values as per the applicable regulation:</i>			
	<u>PPM</u>		
TS (low)	3,500		
TS (high)	350,000		

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable)

B. Cylinder gas audit (CGA) for TS Low (ppm) and TS High (ppm):

	TS Low		TS High	
	Audit #1	Audit #2	Audit #1	Audit #2
1. Date of audit	5/13/2022	5/13/2022	5/3/2022	5/3/2022
2. Cylinder ID number	ALM044117	CC476040	CC121778	CC34005
Vendor	Airgas	Airgas	Airgas	Airgas
3. Date of certification	11/12/2019	4/27/2021	3/18/2019	7/8/2021
Expiration date	11/12/2022	4/27/2024	3/18/2027	7/8/2024
4. Type of certification	RATA Class	RATA Class	RATA Class	EPA Protocol
5. Certified audit value	888.0	1,937	87,110	192,500
6. CEMS response values	889.7	1,952.5	88,082.6	189,978.7
	889.3	1,938.5	87,844.4	190,170.9
	888.0	1,958.0	88,405.9	189,490.7
Average	889.0	1,949.7	88,111.0	189,880.1
7. Accuracy	0.11%	0.66%	1.15%	-1.36%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
 - a. Dates: None
 - b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - West Flare TS CMS

Period ending date: June 30 **Year:** 2022
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P004

<i>CEMS Manufacturer:</i> ThermoFisher	<i>Model #:</i> Sola II	<i>CEMS Serial #:</i> SL-10440115	
<i>CEMS type:</i> Total Sulfur	<i>CEMS sampling location:</i> West Flare		
<i>CEMS span values as per the applicable regulation:</i>			
	<u>PPM</u>		
TS (low)	3,500		
TS (high)	350,000		

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable)

B. Cylinder gas audit (CGA) for TS Low (ppm) and TS High (ppm):

	TS Low		TS High	
	Audit #1	Audit #2	Audit #1	Audit #2
1. Date of audit	5/13/2022	5/13/2022	5/12/2022	5/12/2022
2. Cylinder ID number	ALMX067939	CC89159	CC62361	SX28981
Vendor	Airgas	Airgas	Airgas	Airgas
3. Date of certification	11/12/2019	12/22/2020	3/18/2019	7/8/2021
Expiration date	11/12/2022	12/22/2023	3/18/2027	7/8/2024
4. Type of certification	RATA Class	RATA Class	RATA Class	RATA Class
5. Certified audit value	886.8	1,968.0	86,970	192,500
6. CEMS response values	952.0	2,049.6	79,871.1	195,537.2
	944.2	2,028.9	80,003.1	193,905.8
	931.6	2,020.3	79,662.5	193,929.6
Average	942.6	2,032.9	79,845.6	194,457.5
7. Accuracy	6.29%	3.30%	-8.19%	1.02%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
 - a. Dates: None
 - b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – TIU Fuel Gas Mix Drum TS CMS

Period ending date: June 30 **Year:** 2022
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B015, B017, B019, B022, B029, B030, B031, B032, B033, B034
 B035, P007

CEMS Manufacturer: ThermoFisher		Model #: Sola II		CEMS Serial #: SL-09030713	
CEMS type: Total Sulfur		CEMS sampling location: TIU Fuel Gas Mix Drum			
CEMS span values as per the applicable regulation:					
	<u>PPM</u>				
TS	3,500				

I. **Accuracy assessment results** (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for:

	TS (ppm)	
	Audit #1	Audit #2
1. Date of audit	6/1/2022	6/1/2022
2. Cylinder ID number	CC67442	CC218822
Vendor	Airgas	Airgas
3. Date of certification	11/12/2019	3/21/2020
Expiration date	11/12/2022	3/21/2023
4. Type of certification	RATA Class	RATA Class
5. Certified audit value	887.40	1844.00
6. CEMS response values	880.51	1876.63
	877.16	1873.74
	877.54	1873.96
Average	878.40	1874.78
7. Accuracy	-1.01%	1.67%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
 - a. Dates: None
 - b. Number of days: NA
2. Corrective action taken: NA
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report - Reformer 3 Heater NO_x/O₂ CEM

Period ending date: June 30 **Year:** 2022
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B036

O ₂ CEMS Manufacturer: ABB	Model #: MAGNOS 106	CEMS Serial # 3.340932.7
NO _x CEMS Manufacturer: ABB	Model #: LIMAS 11	CEMS Serial # 3.340287.1
CEMS sampling location: Reformer 3 Heater stack		
CEMS span values as per the applicable regulation:		
	<u>PPM</u>	<u>Percent</u>
SO₂		25
NO_x	200	CO₂

- I. **Accuracy assessment results** (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for NO_x (ppm):

		Vivicom	PI
1.	Date of audit:	4/8/2022	4/8/2022
2.	Reference method (RM) used:	Method 7E	Method 7E
3.	Average RM value:	26.778	26.778
4.	Average CEMS value:	29.509	29.336
5.	Absolute value of mean difference:	2.731	2.558
6.	Confidence coefficient:	0.052	0.058
7.	Percent relative accuracy: (based on applicable standard)	10.39	9.77

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b. Audit sample number		
c. Results		
d. Actual value* (mg/dsm ³)		
e. Relative error*		

*To be completed by the Agency

A. Relative accuracy test audit (RATA) for O₂ (%):

		Vivicom	PI
1.	Date of audit:	4/8/2022	4/8/2022
2.	Reference method (RM) used:	Method 3A	Method 3A
3.	Average RM value:	4.97	4.97
4.	Average CEMS value:	4.97	4.96
5.	Absolute value of mean difference:	0.00	0.01
6.	Confidence coefficient:	0.050	0.053
7.	Percent relative accuracy: (based on applicable standard)	1.05	1.17

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b. Audit sample number		
c. Results		
d. Actual value* (mg/dsm ³)		
e. Relative error*		

*To be completed by the Agency

B. Cylinder gas audit (CGA) for O₂ (%) and NO_x (ppm): (Not Applicable this quarter)

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods: None
 - a. Dates:
 - b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – East Alstom Boiler NO_x/O₂ CEM

Period ending date: June 30 **Year:** 2022
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B034

O ₂ CEMS Manufacturer: ABB	Model #: MAGNOS 106	CEMS Serial # 00400003357006
NO _x CEMS Manufacturer: ABB	Model #: LIMAS 11	CEMS Serial # 00400003362206
CEMS sampling location: East Alstom Boiler stack		
CEMS span values as per the applicable regulation:		
	PPM	Percent
SO ₂		20.0
NO _x	100	CO ₂

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for O₂ (%):

	O ₂		
	Audit #1	Audit #2	Audit #3
1. Date of audit	4/18/2022	4/18/2022	4/18/2022
2. Cylinder ID number	BLM005117	SG9115771ALC	CC469807
Vendor	Airgas	Airgas	Airgas
3. Date of certification	5/22/2020	11/16/2017	2/24/2020
Expiration date	5/22/2028	11/16/2025	2/24/2028
4. Type of certification	RATA Class	RATA Class	RATA Class
5. Certified audit value	5.51	11.04	17.63
6. CEMS response values	5.47	11.02	17.64
	5.48	11.03	17.64
	5.48	11.03	17.64
Average:	5.48	11.03	17.64
7. Accuracy	-0.62%	-0.09%	0.06%

B. Cylinder gas audit (CGA) for NO_x (ppm):

	NO _x		
	Audit #1	Audit #2	Audit #3
1. Date of audit	4/18/2022	4/18/2022	4/18/2022
2. Cylinder ID number	LL84223	SG917946CAL	CC70039
Vendor	Airgas	Airgas	Airgas
3. Date of certification	12/14/2021	6/25/2020	1/3/2022
Expiration date	12/14/2024	6/25/2028	1/3/2030
4. Type of certification	RATA Class	RATA Class	RATA Class
5. Certified audit value	25.00	54.91	91.10
6. CEMS response values	24.82	55.41	91.31
	25.64	55.85	91.38
	<u>25.71</u>	<u>55.36</u>	<u>91.97</u>
Average:	25.39	55.54	91.55
7. Accuracy	1.56%	1.15%	0.49%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)**D. Corrective action for excessive inaccuracy.**

1. Out-of-control periods. None
 - a. Dates:
 - b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – West Alstom Boiler NO_x/O₂ CEM

Period ending date: June 30 **Year:** 2022
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: B035

O ₂ CEMS Manufacturer: ABB	Model #: MAGNOS 106	CEMS Serial # 00400003354606
NO _x CEMS Manufacturer: ABB	Model #: LIMAS 11	CEMS Serial # 00400003361106
CEMS sampling location: West Alstom Boiler stack		
CEMS span values as per the applicable regulation:		
	PPM	Percent
SO ₂		20.0
NO _x	100	CO ₂

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for: (Not Applicable this quarter)

B. Cylinder gas audit (CGA) for O₂ (%):

	O ₂		
	Audit #1	Audit #2	Audit #3
1. Date of audit	4/18/2022	4/18/2022	4/18/2022
2. Cylinder ID number	BLM005117	SG9115771ALC	CC469807
Vendor	Airgas	Airgas	Airgas
3. Date of certification	5/22/2020	11/16/2017	2/24/2020
Expiration date	5/22/2028	11/16/2025	2/24/2028
4. Type of certification	RATA Class	RATA Class	RATA Class
5. Certified audit value	5.514	11.04	17.63
6. CEMS response values	5.48	11.03	17.65
	5.49	11.04	17.65
	5.50	11.04	17.65
Average:	5.49	11.04	17.65
7. Accuracy	-0.44%	0.00%	0.11%

B. Cylinder gas audit (CGA) for NO_x (ppm):

	NO _x		
	Audit #1	Audit #2	Audit #3
1. Date of audit	4/18/2022	4/18/2022	4/18/2022
2. Cylinder ID number	LL84223	SG917946CAL	CC70039
Vendor	Airgas	Airgas	Airgas
3. Date of certification	12/14/2021	6/25/2020	1/3/2022
Expiration date	12/14/2024	6/25/2028	1/3/2030
4. Type of certification	RATA Class	RATA Class	RATA Class
5. Certified audit value	25.00	54.91	91.1
6. CEMS response values	25.01	56.13	91.74
	26.20	57.33	93.09
	<u>26.67</u>	<u>55.80</u>	<u>92.05</u>
Average:	25.96	56.42	92.29
7. Accuracy	3.84%	2.75%	1.31%

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)**D. Corrective action for excessive inaccuracy.**

1. Out-of-control periods. None
 - a. Dates:
 - b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report–FCC/CO Boiler SO₂/NO_x/CO/O₂ CEMS

Period ending date: June 30 **Year:** 2022
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P007

O ₂ CEMS Manufacturer: ABB	Model #: Magnos 106	CEMS Serial # 3.340569.7
SO ₂ CEMS Manufacturer: ABB	Model #: Limas 11 UV	CEMS Serial # 3.340641.7
NO _x CEMS Manufacturer: ABB	Model #: Limas 11 UV	CEMS Serial # 3.340641.7
CO CEMS Manufacturer: ABB Automation	Model #: URAS- 26	CEMS Serial # 3.347698.3
CEMS sampling location: CO Boiler stack		
CEMS span values as per the applicable regulation:		
SO₂	400 PPM	O₂ 10.0 %
NO_x	350 PPM	CO 1000 PPM

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for SO₂ (SO₂ lbs/1,000 lbs Fresh Feed):

		SO ₂
1.	Date of audit:	4/6/2022
2.	Reference method (RM) used:	Method 6C
3.	Average RM value:	0.13
4.	Average CEMS value:	0.12
5.	Absolute value of mean difference:	0.01
6.	Confidence coefficient:	0.005
7.	Percent relative accuracy (based on applicable standard):	0.62

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b. Audit sample number		
c. Results		
d. Actual value* (mg/dsm ³)		
e. Relative error*		

*To be completed by the Agency

Relative accuracy test audit (RATA) for NO_x (ppmv db):

		NO_x
1.	Date of audit:	4/6/2022
2.	Reference method (RM) used:	Method 7E
3.	Average RM value:	34.633
4.	Average CEMS value:	39.677
5.	Absolute value of mean difference:	5.043
6.	Confidence coefficient:	0.609
7.	Percent relative accuracy (based on applicable standard):	2.83

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b. Audit sample number		
c. Results		
d. Actual value* (mg/dsm ³)		
e. Relative error*		

*To be completed by the Agency

Relative accuracy test audit (RATA) for CO (ppmv db):

		CO
1.	Date of audit:	4/6/2022
2.	Reference method (RM) used:	Method 10
3.	Average RM value:	0.967
4.	Average CEMS value:	4.477
5.	Absolute value of mean difference:	3.510
6.	Confidence coefficient:	0.159
7.	Percent relative accuracy (based on applicable standard):	0.73

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b. Audit sample number		
c. Results		
d. Actual value* (mg/dsm ³)		
e. Relative error*		

*To be completed by the Agency

Relative accuracy test audit (RATA) for O₂ (% by vol. db):

		O ₂
1.	Date of audit:	4/6/2022
2.	Reference method (RM) used:	Method 3A
3.	Average RM value:	3.39
4.	Average CEMS value:	3.54
5.	Absolute value of mean difference:	0.15
6.	Confidence coefficient:	0.017
7.	Percent relative accuracy:	4.96

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b. Audit sample number		
c. Results		
d. Actual value* (mg/dsm ³)		
e. Relative error*		

*To be completed by the Agency

B. Cylinder gas audit (CGA): (Not Applicable this quarter)

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods. None
 - a. Dates:
 - b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – FCC Regen Line SO₂/NO_x/CO/O₂/CO₂ CEM

Period ending date: June 30 **Year:** 2022
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P007

SO ₂ CEMS Manufacturer: ABB	Model #: Limas 11 UV	CEMS Serial # 3.240685.3
NO _x CEMS Manufacturer: ABB	Model #: Limas 11 UV	CEMS Serial # 3.240682.3
CO CEMS Manufacturer: ABB	Model #: URAS 14	CEMS Serial # 3.240684.3
O ₂ CEMS Manufacturer: ABB	Model #: Magnos 206	CEMS Serial # 01400101195301
CO ₂ CEMS Manufacturer: ABB	Model #: Limas 11 UV	CEMS Serial # 3.240682.3
CEMS sampling location: FCC Regen Line stack		
CEMS span values as per the applicable regulation:		
SO ₂	500 PPM	O ₂ 25.0 %
NO _x	200 PPM	CO 1000 PPM
CO ₂	50.0 %	

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for SO₂ (ppmv db):

		Vivicom	PI
1.	Date of audit:	4/7/2022	4/7/2022
2.	Reference method (RM) used:	Method 6C	Method 6C
3.	Average RM value:	95.33	95.33
4.	Average CEMS value:	97.47	97.03
5.	Absolute value of mean difference:	2.13	1.70
6.	Confidence coefficient:	2.353	2.436
7.	Percent relative accuracy (based on applicable standard):	4.71	4.34

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b. Audit sample number		
c. Results		
d. Actual value* (mg/dsm ³)		
e. Relative error*		

*To be completed by the Agency

Relative accuracy test audit (RATA) for NO_x (ppmv db):

		Vivicom	PI
1.	Date of audit:	4/7/2022	4/7/2022
2.	Reference method (RM) used:	Method 7E	Method 7E
3.	Average RM value:	43.967	43.967
4.	Average CEMS value:	41.578	41.481
5.	Absolute value of mean difference:	2.389	2.486
6.	Confidence coefficient:	2.954	2.980
7.	Percent relative accuracy (based on applicable standard):	12.15	12.43

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b. Audit sample number		
c. Results		
d. Actual value* (mg/dsm ³)		
e. Relative error*		

*To be completed by the Agency

Relative accuracy test audit (RATA) for CO (ppmv db):

		Vivicom	PI
1.	Date of audit:	4/7/2022	4/7/2022
2.	Reference method (RM) used:	Method 10	Method 10
3.	Average RM value:	575.144	575.144
4.	Average CEMS value:	607.089	606.240
5.	Absolute value of mean difference:	31.944	31.096
6.	Confidence coefficient:	10.422	11.485
7.	Percent relative accuracy (based on applicable standard):	7.37	7.4

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b. Audit sample number		
c. Results		
d. Actual value* (mg/dsm ³)		
e. Relative error*		

*To be completed by the Agency

Relative accuracy test audit (RATA) for O₂ (% by vol. db):

		Vivicom	PI
1.	Date of audit:	4/7/2022	4/7/2022
2.	Reference method (RM) used:	Method 3A	Method 3A
3.	Average RM value:	2.28	2.28
4.	Average CEMS value:	2.42	2.38
5.	Absolute value of mean difference:	0.14	0.10
6.	Confidence coefficient:	0.246	0.262
7.	Percent relative accuracy:	17.16	15.97

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b. Audit sample number		
c. Results		
d. Actual value* (mg/dsm ³)		
e. Relative error*		

*To be completed by the Agency

Relative accuracy test audit (RATA) for CO₂ (% by vol. db):

		Vivicom	PI
1.	Date of audit:	4/7/2022	4/7/2022
2.	Reference method (RM) used:	Method 3A	Method 3A
3.	Average RM value:	16.38	16.38
4.	Average CEMS value:	16.82	16.76
5.	Absolute value of mean difference:	0.44	0.38
6.	Confidence coefficient:	0.041	0.018
7.	Percent relative accuracy:	2.96	2.45

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b. Audit sample number		
c. Results		
d. Actual value* (mg/dsm ³)		
e. Relative error*		

*To be completed by the Agency

B. Cylinder gas audit (CGA): (Not Applicable this quarter)

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods. None
 - a. Dates:
 - b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – Sulfur Recovery Unit (SRU #1) SO₂/O₂ CEM

Period ending date: June 30 **Year:** 2022
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P009

SO ₂ CEMS Manufacturer: Ametek	Model #: 919	CEMS Serial #: ZB-919SP-10541-1
O ₂ CEMS Manufacturer: Ametek	Model #: 919	CEMS Serial #: ZB-919SP-10541-1
CEMS sampling location: SRU Thermal Oxidizer		
CEMS span values as per the applicable regulation:		
	PPM	Percent
SO₂	500	O₂ 10.0
NO_x		CO₂

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for SO₂ (ppmv db):

		Vivicom	PI
1.	Date of audit:	4/13/2022	4/13/2022
2.	Reference method (RM) used:	Method 6C	Method 6C
3.	Average RM value:	99.81	99.81
4.	Average CEMS value:	81.80	81.39
5.	Absolute value of mean difference:	18.01	18.42
6.	Confidence coefficient:	5.060	5.042
7.	Percent relative accuracy (based on applicable standard):	9.23	9.39

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b. Audit sample number		
c. Results		
d. Actual value* (mg/dsm ³)		
e. Relative error*		

*To be completed by the Agency

Relative accuracy test audit (RATA) for O2 (% by vol. db):

		Vivicom	PI
1.	Date of audit:	4/13/2022	4/13/2022
2.	Reference method (RM) used:	Method 3A	Method 3A
3.	Average RM value:	6.20	6.20
4.	Average CEMS value:	6.03	6.03
5.	Absolute value of mean difference:	0.17	0.17
6.	Confidence coefficient:	0.019	0.044
7.	Percent relative accuracy (based on applicable standard):	3.05	3.49

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b. Audit sample number		
c. Results		
d. Actual value* (mg/dsm ³)		
e. Relative error*		

*To be completed by the Agency

B. Cylinder gas audit (CGA): (Not Applicable this quarter)

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
 - a. Dates:
 - b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Data Assessment Report – Sulfur Recovery Unit #2 and #3 (TRP SRU) SO₂/O₂ CEM

Period ending date: June 30 **Year:** 2022
Company name: BP-Husky Refining LLC **Plant name:** Toledo Refinery
Source unit #: P037

SO ₂ CEMS Manufacturer: Ametek	Model #: 919	CEMS Serial #: ZX-919-10814-1
O ₂ CEMS Manufacturer: Ametek	Model #: 919	CEMS Serial #: ZX-919-10814-1
CEMS sampling location: TGT #2 Thermal Oxidizer stack		
CEMS span values as per the applicable regulation:		
	<u>PPM</u>	<u>Percent</u>
SO₂	500	O₂ 10.0
NO_x		CO₂

I. Accuracy assessment results (Complete A, B, or C below for each CEMS or for each pollutant and diluent analyzer, as applicable.)

A. Relative accuracy test audit (RATA) for SO₂ (ppmv db):

	Vivicom	PI
1. Date of audit:	4/12/2022	4/12/2022
2. Reference method (RM) used:	Method 6C	Method 6C
3. Average RM value:	45.59	45.59
4. Average CEMS value:	46.85	46.79
5. Absolute value of mean difference:	1.26	1.20
6. Confidence coefficient:	1.586	1.589
7. Percent relative accuracy (based on applicable standard):	1.14	1.12

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b. Audit sample number		
c. Results		
d. Actual value* (mg/dsm ³)		
e. Relative error*		

*To be completed by the Agency

A. Relative accuracy test audit (RATA) for O₂ (% by vol. db):

		Vivicom	PI
1.	Date of audit:	4/12/2022	4/12/2022
2.	Reference method (RM) used:	Method 3A	Method 3A
3.	Average RM value:	4.47	4.47
4.	Average CEMS value:	3.96	3.96
5.	Absolute value of mean difference:	0.50	0.51
6.	Confidence coefficient:	0.044	0.044
7.	Percent relative accuracy (based on applicable standard):	12.25	12.35

8. EPA performance audit results:	Point (1)	Point (2)
a. Audit lot number		
b. Audit sample number		
c. Results		
d. Actual value* (mg/dsm ³)		
e. Relative error*		

*To be completed by the Agency

B. Cylinder gas audit (CGA): (Not Applicable this quarter)

C. Relative accuracy audit (RAA) for: (Not Applicable this quarter)

D. Corrective action for excessive inaccuracy.

1. Out-of-control periods.
 - a. Dates:
 - b. Number of days:
2. Corrective action taken:
3. Results of audit following corrective action. (Use format of A, B, or C above.)

II. Calibration drift assessment - See Tables B1 & B2

Table B1 - Calibration Drift Assessment; Out-of-Control Periods for Part 60

CEMS	Start Time	End Time	Hours	Corrective Action Taken
East Flare H2S	6/16/2022 16:00	6/17/2022 8:00	16	Adjusted gate and re-ran calibration. Returned analyzer to service.

Table B2 – Calibration Drift Assessment; Out-of-Control Periods for Part 63

CEMS	Start Time	End Time	Hours	Corrective Action Taken
SRU 1 SO2	4/5/2022 7:00	4/5/2022 10:00	3	Recalibrated and Returned Analyzer to service.
SRU 1 SO2	4/6/2022 7:00	4/6/2022 9:00	2	Recalibrated and Returned Analyzer to service.
SRU 1 SO2	4/10/2022 7:00	4/10/2022 8:00	1	Recalibrated and Returned Analyzer to service.
SRU 1 SO2	4/11/2022 7:00	4/11/2022 9:00	2	Recalibrated and Returned Analyzer to service.
SRU 1 SO2	4/16/2022 7:00	4/16/2022 8:00	1	Recalibrated and Returned Analyzer to service.
SRU 1 SO2	4/17/2022 7:00	4/17/2022 8:00	1	Recalibrated and Returned Analyzer to service.
SRU 1 SO2	4/21/2022 7:00	4/21/2022 10:00	3	Recalibrated and Returned Analyzer to service.

Per 40 CFR Part 63.8(c)(7)(i), a CMS is out of control if the zero, mid-level, or high-level calibration drift (CD) exceeds two times the applicable CD specification in the applicable performance specification or in the relevant standard. These instances are reported in Table B2 above.